

REMARKS

The Final Office Action mailed January 8, 2004 has been received and carefully noted.

The following remarks are submitted as a full and complete response thereto.

A "Petition for Extension of Time" for extending the due date for responding to the Office Action by three months and a credit card payment form to cover the fee payment (\$950.00) for the extension are filed with this Amendment. Authorization is granted to charge counsel's Deposit Account No. 01-2300, referencing **Attorney Docket No. 101201-00009**, for any additional fees due with respect to this Amendment.

The Specification of the invention has been amended to correct typographical errors. Applicant submits that the amendments made herein introduce no new matter.

Claims 9-14 were finally rejected under 35 U.S.C. § 102(e) as being anticipated by the Kuwahara et al. patent (U.S. Patent No. 6,141,335). The rejections are respectfully traversed and reconsideration is requested.

Independent claim 9 recites a wireless base station that transmits a control signal to a non-specific mobile station by forming an omnidirectional antenna pattern and transmits a control signal to a specific mobile station by forming an array antenna pattern, the wireless base station comprising a judging unit operable to, when the control signal is to be transmitted to the specific mobile station, refer to a reception condition of and a time lapse from, an immediately preceding reception from a mobile station and judge if one or both of the reception condition and the time lapse satisfy a predetermined criterion and a controlling unit operable to, when the judging unit judges in the affirmative, stop the wireless base station from forming the array

NYC/133827.1

- 4 -

Application Ser. No.: 09/715,087
Attorney Docket No.: 101201-00009

antenna pattern and force the wireless base station to transmit the control signal by forming an omnidirectional antenna pattern. Independent claim 14 recites a controlling method of claim 9.

One of the technical features of the present invention claimed is that a control signal for a non-specific mobile station from the base station, i.e., a signal of general information such as base station information, is always transmitted with an omnidirectional antenna pattern, whereas a control signal for a specific mobile station, i.e., a signal of individual information such as connection channel allotment information, is normally transmitted with a directional antenna pattern. The controlling unit, however, switches to an omnidirectional antenna pattern, when the judging unit has judged that one or both of the reception condition of, and the time lapse from, an immediately preceding reception from a mobile station satisfy a predetermined criterion.

According to the present invention, the control signal is transmitted from the base station to a specific mobile station normally with a directional antenna pattern, thus reducing interferences from other base stations. The controlling unit, however, stops the base station from forming the directional antenna pattern and forces the base station to transmit the control signal with an omnidirectional antenna pattern when the judging unit has judged that the predetermined criterion is satisfied. For example, in a case where a predetermined period of time has passed since an immediately preceding reception from a mobile station, it is not always appropriate to form a directional antenna pattern because the mobile station moves around. In such a case, the controlling unit makes sure that the control signal be transmitted to the mobile station by switching to an omnidirectional antenna pattern.

The Kuwahara et al. patent discloses that a base station having a plurality of antennas receives a plurality of beams transmitted from a mobile terminal being a communication target. A beam selecting unit selects a beam out of the plurality of beams and transmits the control

signal with the selected beam. The beam selected by the beam selecting unit is either a beam that has the strongest received power, or a beam that is judged by the beam selecting unit to have the most excellent communication quality out of the plurality of beams received when the signal was recently transmitted from the mobile terminal. The transmission to the mobile station is made using the beam selected by the beam selecting unit. The selected beam is used to transmit a control signal for a specific mobile station. In other words, the selected beam is used to transmit the control signal to the mobile station. On the other hand, an omnidirectional beam is used when a control signal to be transmitted is of general information for a non-specific mobile station. (col. 2, l. 50 – col. 3, l. 5)

Applicant respectfully submits that the Kuwahara et al. patent neither discloses nor suggests the wireless base station or the controlling method, as claimed in independent claims 9 and 14. According to the present invention, the controlling unit transmits a control signal for a specific mobile station using an omnidirectional antenna pattern when the judging unit has judged that one or both of the reception condition of, and the time lapse from, an immediately preceding reception from a mobile station satisfy a predetermined criterion. In contrast, in the Kuwahara et al. patent, the signal transmitted from a mobile station is received by a plurality of beams, and the beam selecting unit selects a beam that has the strongest received power or the most excellent communication quality out of a plurality of beams, so that transmission is made using the selected beam. In other words, in the cited reference, the transmission uses nothing but a directional antenna. Since the Kuwahara et al. patent lacks a controlling unit as defined in the present invention as one of the main constituents, transmission is always made with a directional antenna pattern for a control signal for a specific station, even if the predetermined criterion has been satisfied. Conversely, the present invention makes sure that a control signal reaches a

specific mobile station by switching to an omnidirectional antenna pattern. Thus, the present invention is distinct from in the Kuwahara et al. patent.

Based upon the above, it is accordingly submitted that independent claims 9 and 14 are patentable based upon the Kuwahara et al. patent failing to disclose or suggest the wireless base station or controlling method, as claimed herein. Dependent claims 10-13 depend from independent claim 9, and are thus limited to additional features of the invention. Therefore, it is respectfully submitted that dependent claims 10-13 are patentable over the Kuwahara et al. patent for at least the reasons set forth above with respect to independent claim 9.


Entry of this Amendment after final rejection is therefore submitted as proper in that it places the application in condition for allowance. Particularly, the present Amendment is submitted as not raising new issues or requiring further consideration or searching. Undersigned counsel would accordingly appreciate the Examiner telephoning counsel prior to the expiration of the six-month statutory period (i.e., **July 8, 2004**) to indicate the disposition of this Response.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact the Applicant's undersigned attorney at the telephone number, indicated below, to arrange for an interview to expedite the

disposition of this application.

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Respectfully submitted,


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